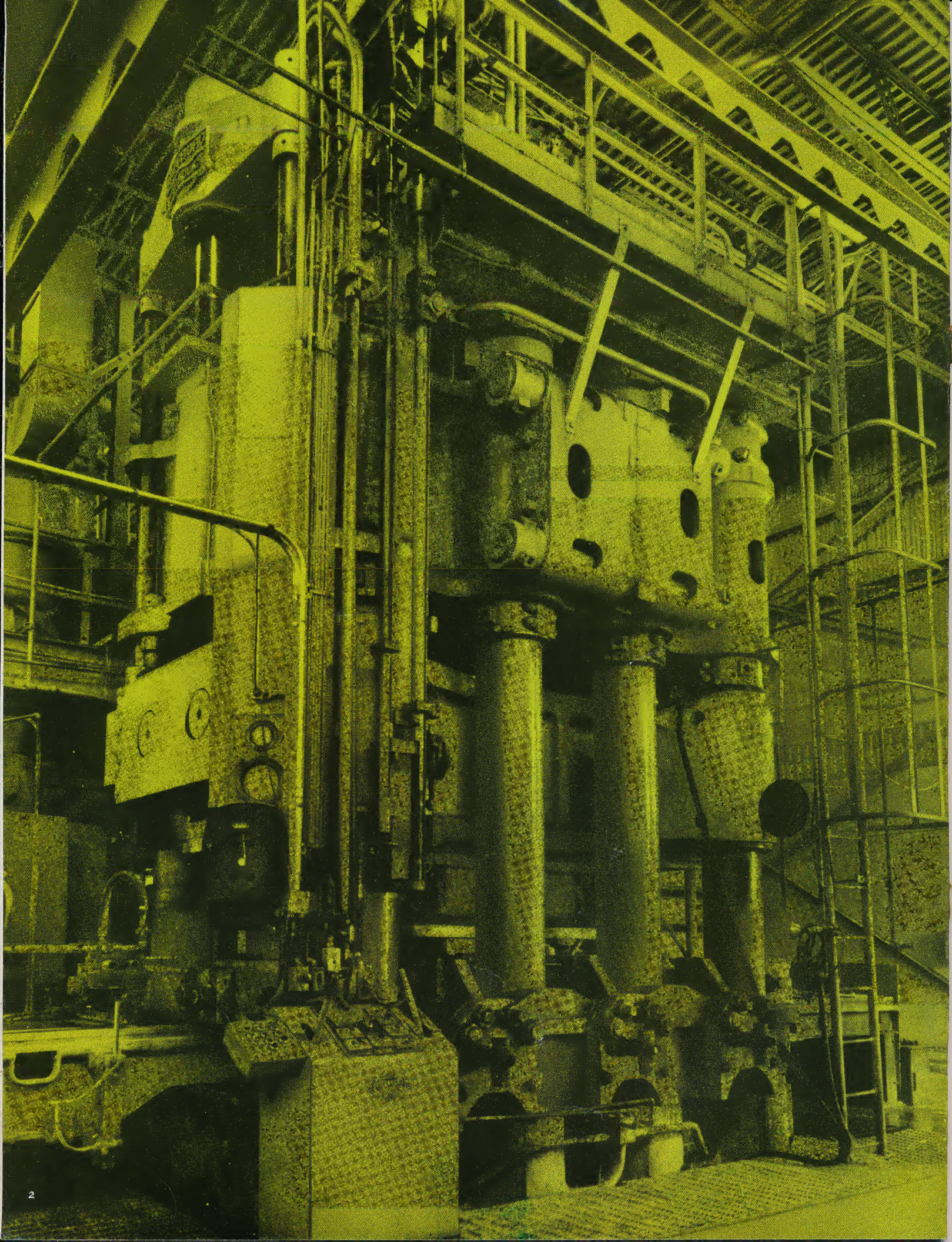


KolorMate®

THE MONOLITHIC ASBESTOS-CEMENT SHEET

 **nicolet**
INDUSTRIES INC.

AIA FILE NUMBER 23-L
(AIA FILE NUMBERS 35-E, 17A)



nicolet KolorMate

a new dimension in design and durability

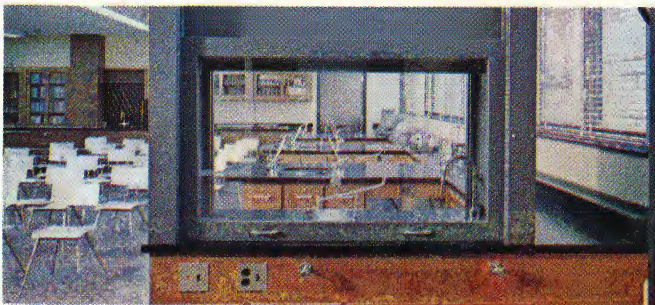
KolorMate, a monolithic asbestos-cement sheet, fulfills the need for a laboratory table top material which combines beauty, strength and chemical resistance. KolorMate is composed of Portland cement, silica and finely dispersed asbestos fibers, combined in a mix with chemically resistant colors and fillers. The mix is formed under hydrothermal conditions and bonded under great pressure to form a strong, dense, homogeneous sheet of consistent high quality, free of flaws and stratifications.

KolorMate is supplied in three appealing colors: Bermuda Green, Cocoa Tan, and Charcoal Gray, and besides its prime use in various types of laboratory applications, it is readily adaptable for architectural uses such as span-drels, interior partitions, window sills, stools and benches.

KolorMate's physical properties permit important design economies. Exceptional service durability, superior impact and breaking strengths up to three times that of stone will allow for the use of lesser thicknesses of KolorMate than are normally required where natural stone materials are specified.

The modulus of rupture, shear, tensile and compressive strengths of KolorMate demonstrate its superiority as a quality product as evidenced by its growing use in top quality laboratory furniture.

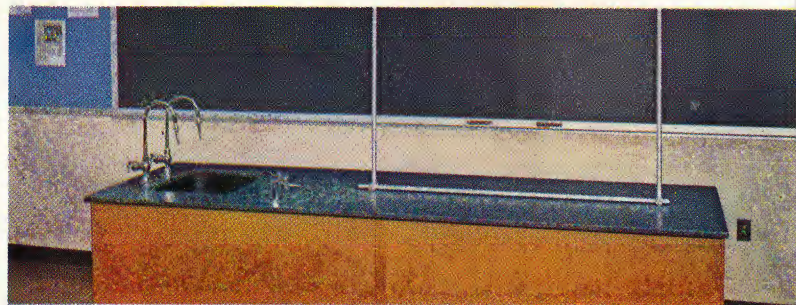
Fabrication presents no problem. KolorMate can be cut and machined to very close tolerances along straight or curved lines utilizing tools and practices common to similar operations on metal or other hard substances, such as marble, stone, etc. KolorMate as supplied can be used without the addition of elaborate finishes or coatings. The application of inexpensive clear chemically resistant coatings should be considered however, and is recommended where increased surface protection is required. The increase in cost for this added protection is negligible.



Owner: Harding High School, Bd. of Education
Bridgeport, Connecticut

Architect: Lyons and Mathers
Bridgeport, Connecticut

Gen. Contractor: Edwin Moss & Son, Inc.



*Owner: The Upjohn Company
Kalamazoo, Michigan
Architect: Smith, Haines, Lundberg and Waehler
New York, New York*

nicolet KolorMate

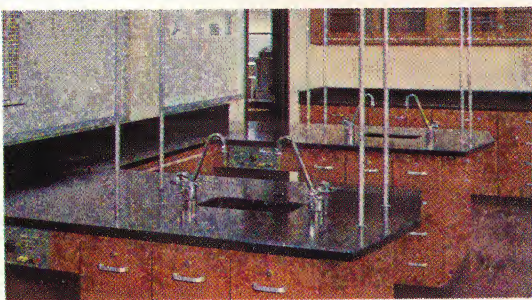
is the choice of leading schools and laboratories.

The choice of $\frac{3}{4}$ " thick KolorMate top material in this high school laboratory application reflects the many advantages inherent in the use of this product.

The consistent high quality and uniformity of this monolithic asbestos-cement sheet and its resistance to daily shock and abuse make KolorMate a number one choice with laboratory furniture designers and architects. Impervious to thermal shock and highly resistant to impact, KolorMate has qualities which are superior in many ways to natural stone materials.

In the Harding School installation the Architects specified the use of $\frac{3}{4}$ " top material on the basis of tests and actual economies involved. Such are the properties of this material that use of the conventional $1\frac{1}{4}$ " material was not necessary.

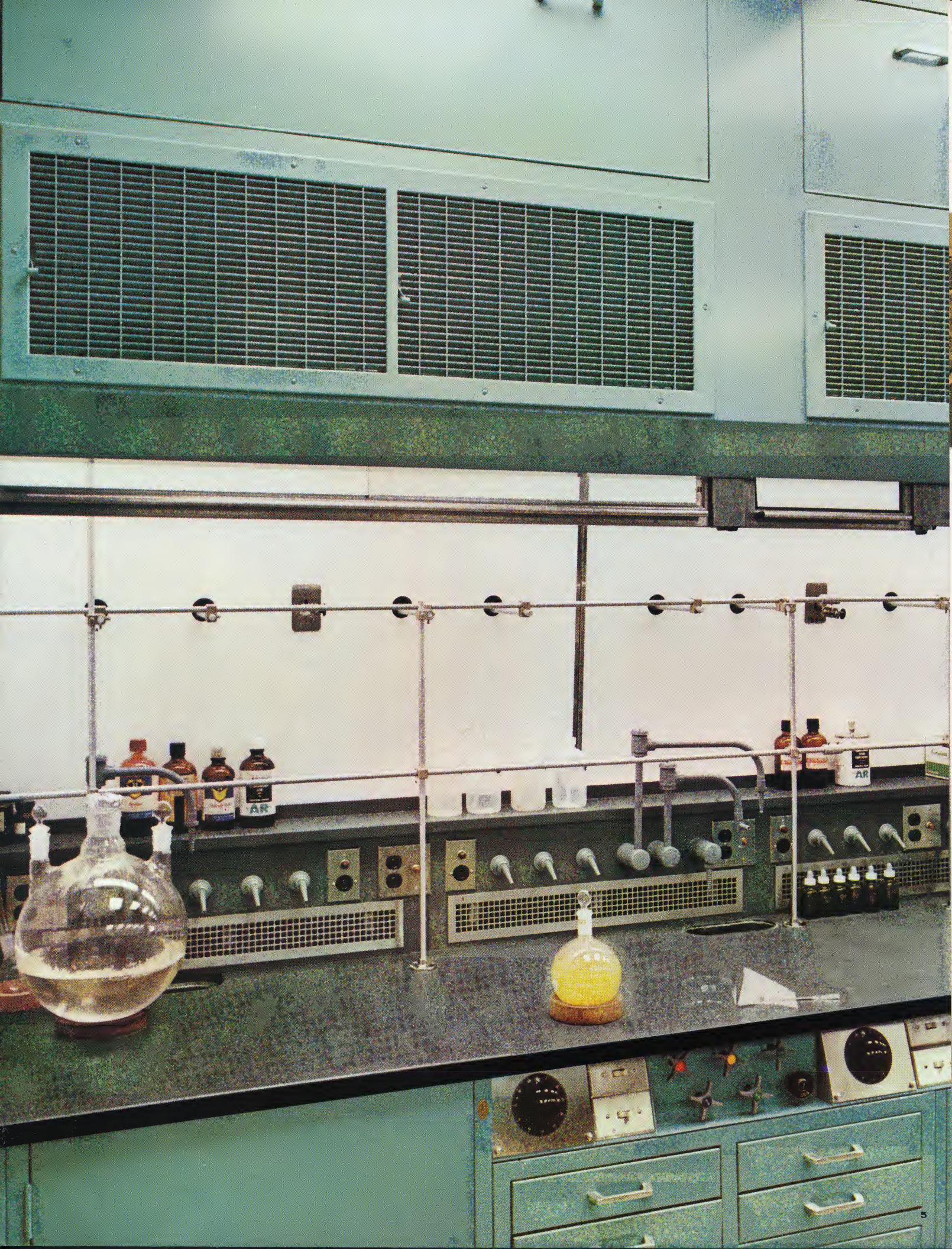
In actual fabrication the immediate availability of KolorMate in large sheet sizes, as opposed to the size restrictions of natural stone materials, for instance, enables the laboratory furniture manufacturer to construct with a minimum number of joints, maximum uniformity and provides the added advantage of color choice.



*Owner: Harding High School, Bd. of Education
Bridgeport, Connecticut
Architect: Lyons and Mathers
Bridgeport, Connecticut
Gen. Contractor: Edwin Moss & Son, Inc.*



*Owner: Jr. High School No. 281
Brooklyn, New York
Architect: Board of Education, New York City
Gen. Contractor: Planet Construction Co.
New York, New York*



installation procedures recommended for **KolorMate** *applications*

LABORATORY FURNITURE

FABRICATION The uniform texture of KolorMate contributes to ease of fabrication in laboratory furniture constructed with this material. KolorMate can be cut dry or wet with either abrasive or diamond wheels. Edges can be finished to any degree of required contour or smoothness with conventional metal or stone-cutting tools. Similarly, drilling can be accomplished with standard drills, and other cutting or shaping operations can be performed with jigsaws, stone cutting saws, milling machines, lathes, and band saws.

ADHESIVES To bond KolorMate to wood or metal surfaces requires an adhesive, and Nicolet's research indicates the use of an epoxy-type adhesive which sets at room temperature. Test results indicate excellent adhesion with adequate tensile strength of the bond common to this type of adhesive.

ARCHITECTURAL APPLICATIONS

KolorMate products can be used as a veneer for most types of masonry walls, in new or old construction. Installed by the methods recommended for marble, KolorMate demonstrates a number of advantages over natural materials. Less brittle and stronger since it possesses no flaws or stratifications, it is also 33% lighter in weight than marble of equivalent thicknesses and can also be used in a $\frac{7}{8}$ " thickness instead of the $1\frac{1}{4}$ " preferred for marble.

KolorMate panels are generally erected with a 1" clearance between the panel and the face of the masonry. Bonding is done with mortar supplemented by 10 gauge (0.135" diameter) brass wire anchors. $\frac{1}{4}$ " holes are drilled in the panels with a carbide tip masonry drill. (See details, 3, 5, 6 and 9 on Page No. 7. For other methods see details 4, 7, and 8).

Corner anchors for the panels are placed within 9" of the vertical and 6" of the horizontal edge. On adjacent panels the anchors are set opposite to each other and the maximum edge spacing between anchors is 24". Additional anchors are located on the back of the panels at no more than 24" apart. Mortar spots are used at all anchors.

Preparation before installing includes pre-sealing the edges and the back surface with a waterproof coating or paint, similar to the treatment for marble. A flatted cellulose-acetate-butyrate lacquer sealer or equivalent may be used for this purpose. Panels are set with a $\frac{1}{8}$ " joint, maintained by the use of lead spacers $\frac{1}{8}$ " thick. Joints are grouted with an approved grouting mortar, a polysulfide type caulking putty or a silicone building or construction sealant.

The weight of the panels over openings, such as doors and windows, should be further supported by continuous horizontal shelf angles of non-corrodible metal permanently attached to the masonry. This shelf installation should be also carried out at each story level when the building rises to an appreciable height. (See Details 1, 2 and 3 on Page 7).

FACING FOR STEEL

Normal methods of attaching stone to steel are employed when using KolorMate as a facing for steel structures. Thicker panels are generally used to accommodate the necessary hardware. KolorMate permits easier routing operations for insert attachments and the material possesses a remarkable screw-holding ability. (See Physical Characteristics—Pg 9).

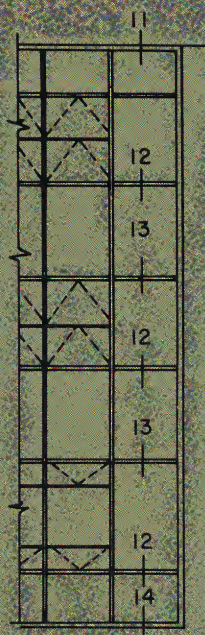
CURTAIN WALLS

KolorMate is adaptable to most of the current window wall assemblies, when used alone or with back-up materials. When used alone the pre-sealing operation should be followed for the back and sides of the panel. Outside surfaces can be sealed if desired. Differences in expansion coefficients of materials should be compensated for by a $\frac{1}{8}$ " space between KolorMate panel and window wall frame.

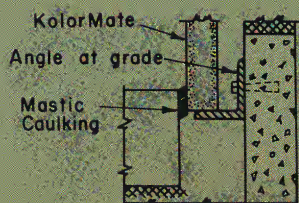
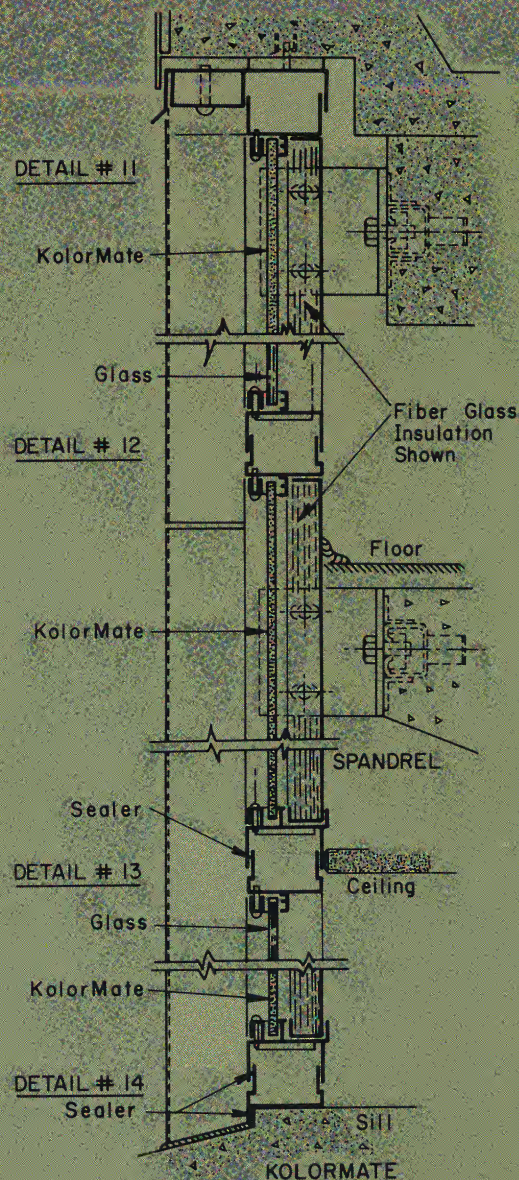
Whether panels are used singly or with back-up material a minimum panel thickness of $\frac{1}{2}$ " is recommended.

NOTE:

Exterior color recommendations do not include Charcoal Gray KolorMate.



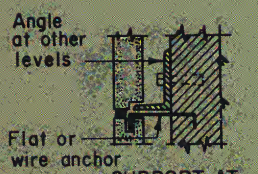
TYPICAL ELEVATION



SUPPORT AT GRADE
Detail # 1



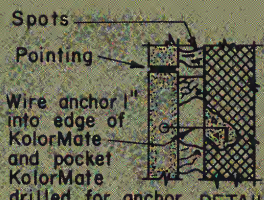
SUPPORT ABOVE WINDOW
Detail # 2



SUPPORT AT UPPER FLOORS
Detail # 3



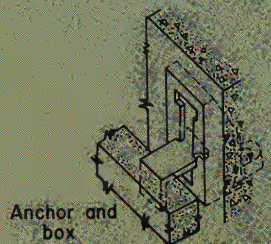
DETAIL # 4



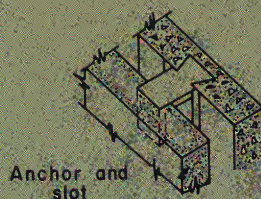
DETAIL # 5



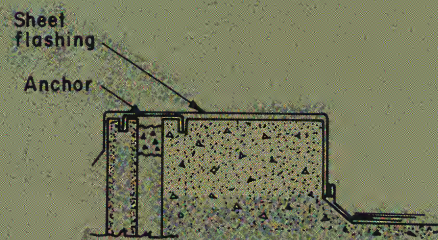
DETAIL # 6



DETAIL # 7



DETAIL # 8



TYPICAL FLASHING DETAILS
AT ROOF LEVEL
Detail # 9

ANCHORING DETAILS

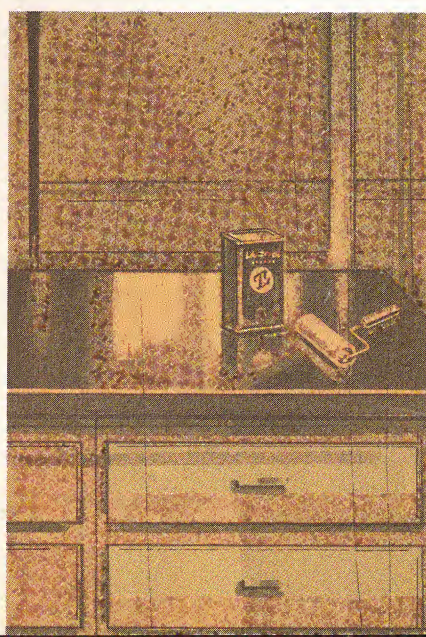
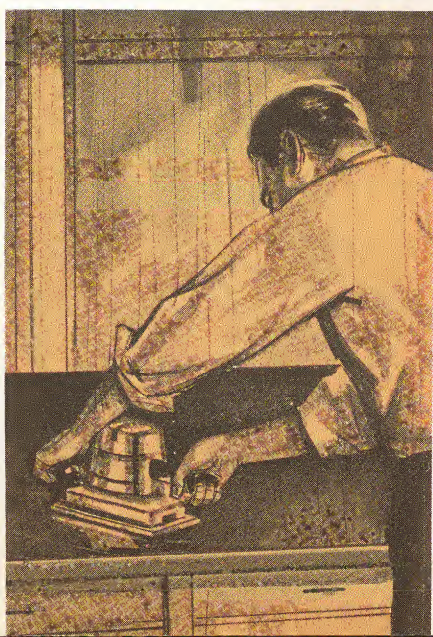
maintenance recommendations for **KolorMate** *tops*

Laboratory tops, regardless of type or composition, require some maintenance and the following steps are recommended for getting the most mileage out of your KolorMate tops:

KEEP YOUR TOP CLEAN. Wash with clear water daily and remove spilled reagents immediately. This procedure will prevent staining and discoloration which results from extended exposure to acids, inks, dyes, etc., and reduces maintenance to a minimum.

REFINISH YOUR TOP AS NECESSARY. Although KolorMate tops will, almost without exception, be delivered with a double coat of flatted polyvinyl lacquer, careless or severe treatment of the surface will in time reduce the effectiveness of the protective coating. The refinishing procedure is simple and inexpensive:

- 1) Sand top, using orbital hand sander (*100 to 120 grit silicon carbide paper* is recommended). Remove dust.
- 2) Apply two thin coats of a clear flatted polyvinyl-chloride-acetate copolymer lacquer, or equivalent. This lacquer may be applied with either a roller or a spray gun. Allow over-night-drying.
- 3) Apply a double coat of solvent-thinned wax every two to three months for added beauty and protection.



PHYSICAL CHARACTERISTICS* *All colors (1 1/4" thickness)*

Modulus of Rupture, Flexural, (Dry) psi	4,000
Modulus of Elasticity, Flexural, psi $\times 10^6$	2.5
Tensile Strength, psi	1,800
Normal Moisture Content, % Dry Weight	4.0
Water Absorption, % (48 hr., Immersion)	20.0
Density, lbs. per cu. ft. (Dry) (Min.)	100
Brinell Hardness, 500 kg/10MM/30 sec.	25
Rockwell Hardness—M	55
Compressive Strength, (Dry) psi	15,000
Shear Strength, (Dry) psi	5,000
Moisture Expansion, % normal length	
% normal length—96 hrs. Exposure, 75° F.,	
100 RH04
48 hrs. Immersion05
Screw Holding Strength, lbs.†	
1/4" Penetration	100
3/8" Penetration	300
3/4" Penetration	1,000
7/8" Penetration	1,600
Colors: Charcoal Gray, Bermuda Green, Cocoa Tan	
Thicknesses	All Popular
Sheet Size	4' \times 8'

* Nominal test values, not to be used for specifications.

† Type A, No. 6 Sheet Metal Screw.

CHEMICAL RESISTANCE CHARACTERISTICS**

Hydrofluoric Acid	Etched Surface—Lighter Color
Hydrochloric Acid, 36%	No Visible Stain
Sulfuric Acid, 50%	White Surface—Stain Easily Removed
Furfural	Slight Stain
Phosphoric Acid 87%	Surface Stain Easily Removed
Sodium Hydroxide	No Visible Stain
Nitric Acid, 50%	No Visible Stain
Methyl Alcohol	No Visible Stain
Ethyl Alcohol	No Visible Stain
Acetone	No Visible Stain
Gasoline	No Visible Stain
Naphtha	No Visible Stain
Ether	No Visible Stain
Toluene	No Visible Stain
Benzene	No Visible Stain
Xylene	No Visible Stain
Carbon Tetrachloride	No Visible Stain

The Chemical Resistance Characteristics shown above are typical of those found in Charcoal Gray. Although the careful selection of asbestos and cement gives KolorMate excellent resistance to corrosion, alkali and acid, the addition of a polyvinyl coating provides increased surface protection.

** Charcoal Gray (no protective finish)

KolorMate *is ideally suited for use in window stools, sills and radiator covers*

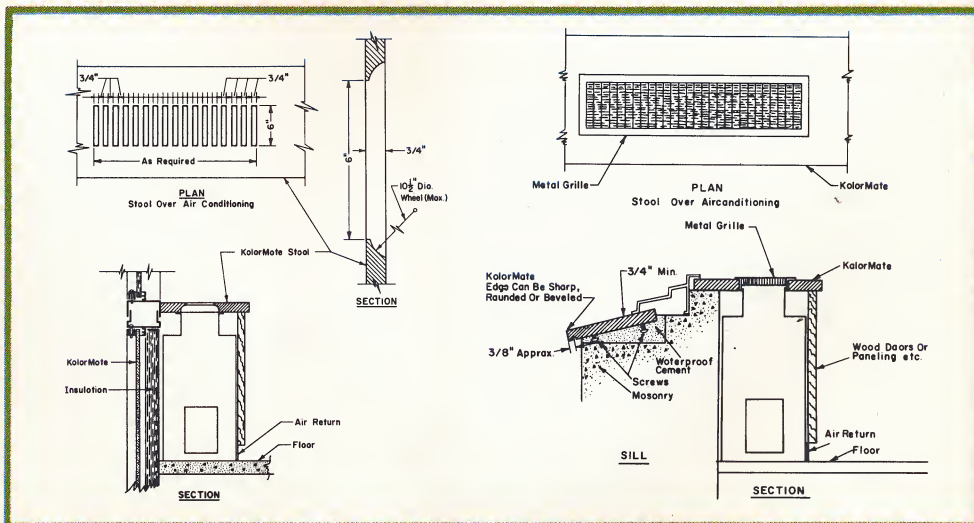
The architectural uses for KolorMate include a number of interior applications such as window sills, window stool and radiator covers and room dividers. As a result of its appearance, strength and durability, KolorMate compares favorably in price and performance with stone or slate, and the uniformity of the sheets gives maximum material usage with a minimum number of joints.

KolorMate colors for both interior and exterior use are as follows: Bermuda Green, Cocoa Tan, Charcoal Gray*

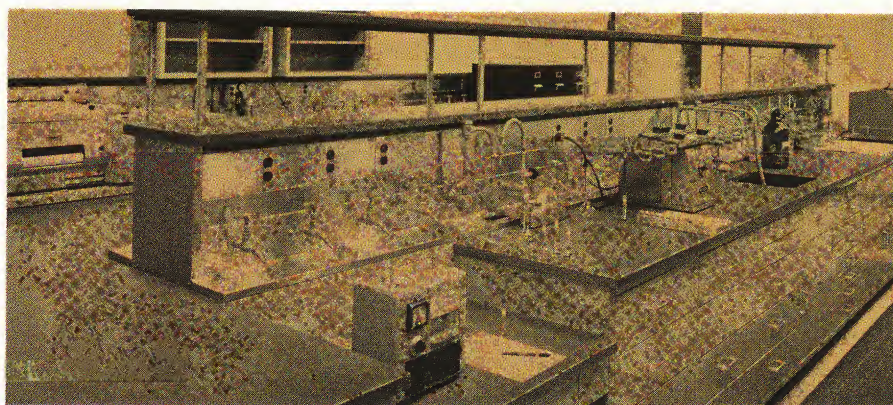
KolorMate is highly resistant to the effects of environmental conditions such as marking and stain but for simplicity of housekeeping it is recommended that all stools be finished with thin spray coats of cellulose—acetate—butyrate lacquer applied to both sides and edges.

The illustrations indicate typical construction details for KolorMate as applied to window sills, window stools and covers over radiators.

*Charcoal Gray not recommended for exterior use.



KOLORMATE . . . FOR THE FINEST FINISH



nicolet **RESISTAL**® *the economical monolithic asbestos-cement sheets for laboratory applications*

Resistal is a tough monolithic material composed of asbestos fibers, Portland cement and corrosion resisting compounds mixed with water and other inert mineral fillers and then formed under extreme pressure into a dense homogeneous sheet. Primarily intended for use in laboratory table tops, fume hoods and other scientific applications, Resistal can be used as is where service conditions are mild. However, where severe, Resistal provides an economical base for chemically resistant pigmented finishes. The material can be sprayed on, brushed or baked. Resistal is coated with a baked epoxy finish by leading laboratory furniture manufacturers.

SPECIFICATIONS

SHEET SIZES:

Standard Blanks	Approx. 50" × 98"
Trimmed: 1 side, 1 end	Approx. 49" × 97"
Trimmed: 4 sides	48" × 96" (tolerance ±1/32")

AVAILABLE THICKNESS

1/4", 3/8", 1/2", 3/4", 1" and 1 1/4" all to tolerance ±1/32"

Thicknesses up to 2" on special order.

PHYSICAL PROPERTIES

Density, lbs./cu. ft.	103
Water content, %	1.0
% Water absorption	
48 hr. immersion	1.5
Modulus of rupture psi	
1/4" to 1/2" thickness	4000
over 1/2"	3500
Brinell Hardness	
500 kg/10mm/30 sec.	25

K-M[®] monobestos[®] boards

K-M Monobestos is a monolithic inorganic structural material composed of asbestos fibres and Portland cement, combined under extreme pressure to form a homogeneous sheet, gray in color. Practically maintenance free under normal conditions, requiring no paint or protective coating for preservation. For conditions under which a coating is desirable a good quality alkaline-resistant paint can be used. Highly arc and heat resistant, Monobestos is completely incombustible and can be cut and fitted using conventional methods for hard materials.

APPLICATIONS

Fume Hoods and Ducts ■ Baffles ■ Housing of Cooling Towers ■ Dry Kilns ■ Cell Compartments ■ Cell Doors ■ Arc Barriers ■ Arc Shields ■ Partitions ■ Walls ■ Ceilings ■ Panels

PHYSICAL PROPERTIES

Tensile Strength, psi	1800
Brinell Hardness (Dry)	
500 kg/10mm/30 sec.	
3/8" to 2" incl.	25
Over 2"	20
Water absorption, % of dry weight	
After 48 hrs. immersion,	
3/8" to 2" incl.	15
Over 2"	18
Dimensional change due to moisture	
Expansion, normal to saturated	0.001
Expansion, dry to saturated	0.0025
Shrinkage, normal to dry	0.0015
Compressive strength, psi	15,000

K-M[®] ebonized asbestos boards

Ebonized Asbestos is a structural electrical insulation panel composed of select asbestos fibres and Portland cement which are wet mixed and subjected to intense pressure to form homogeneous sheets. Impregnated with a special asphaltic compound the final material combines good dielectric strength and insulation resistance and is unaffected by water, oil, gas and ordinary chemicals.

The low moisture absorption characteristics aid in maintaining electrical properties and permit its use in damp locations.

APPLICATIONS

Switchboards ■ Circuit breakers ■ Controller plates ■ Switch bases ■ Bus-bar supports ■ Insulating spacers ■ Telephone switch and Terminal panels.

PHYSICAL PROPERTIES

Tensile Strength, psi	1700
Water absorption, by wt.	
Dry 48 hrs.	
220 F. Immersion, 48 hrs.	0.5
Max. operating temperature	300 F.

ELECTRICAL PROPERTIES

Dielectric Strength,	
Perpendicular to surface—short time	
test, volts per mil.	
1/2" and less	50
5/8" to 1" incl.	40
Over 1" to 2"	30
Arc Resistance, seconds*	186
*Lacquered Finish	

 **nicolet**
INDUSTRIES INC.

F L O R H A M P A R K , N E W J E R S E Y



NICOLET INDUSTRIES, INC.

MARKETING DEPARTMENT

TELEPHONE: (201) 377-7400

FLORHAM PARK, NEW JERSEY

June 15, 1966

Mr. J. Nelson, Systems Consultant
Box 1546
Poughkeepsie, New York 12603

Dear Mr. Nelson:

Thank you very much for your inquiry regarding KolorMate.

We are pleased to enclose with this letter our 1966
KolorMate Brochure which illustrates the various uses
which we have found for KolorMate.

By copy of this letter we are requesting Mr. E. H. White,
Sales Service Manager at our Ambler, Pa., Plant to send
you hand samples of the three KolorMate colors we currently
manufacture.

Thank you again for your interest in KolorMate; and if we
can assist further, please do not hesitate to call on us.

Very truly yours,

Robert G. McNamara
Product Manager

RGMcN:erh